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CI
sending a second 100 MHz time-division multiplexed signal on a transmit data line;

sending a plurality of time-division multiplexed transmit control signals on a transmit control line,

wherein the receive control signals include a receive data valid signal and a receive error signal and the transmit control signals include a transmit enable signal and a transmit error signal.

2. (Amended Once) The method of claim 1 wherein the time-division multiplexed receive control signals includes 4 bit segments and wherein each 4 bit segment includes a synchronization bit.

4. (Amended Once) The method of claim 1 wherein the time-division multiplexed receive control signals includes 4 bit segments of the receive data line and wherein each 4 bit segment includes a receive data valid bit.

5. (Amended Once) The method of claim 1 wherein the time-division multiplexed receive control signals includes 4 bit segments and wherein each 4 bit segment includes a receive error bit.

6. (Amended Once) The method of claim 1 wherein the time-division multiplexed receive control signals includes 4 bit segments and wherein each 4 bit segment includes a carrier sense bit.

7. (Amended Once) The method of claim 1 wherein the time-division multiplexed transmit control signals includes 4 bit segments of the transmit data line and wherein each 4 bit segment includes a synchronization bit.

9. (Amended Once) The method of claim 1 wherein the time-division multiplexed transmit control signals includes 4 bit segments and wherein each 4 bit segment includes a transmit enable bit.

10. (Amended Once) The method of claim 1 wherein the time-division multiplexed transmit control signals includes 4 bit segments and wherein each 4 bit segment includes a transmit error bit.

15. (Amended Three Times) An interface between a first media access control layer and a second media access control layer, consisting essentially of:

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a time-division multiplexed receive control line for transmitting different functional types of receive control signals including a receive data valid signal and a receive error signal;

a time-division multiplexed transmit data line;

a time-division multiplexed transmit control line for transmitting different functional types of transmit control signals including a transmit enable signal and a transmit error signal.

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16. (Amended Three Times) A media access control layer to physical layer interface consisting essentially of:

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a common clock;

a time-division multiplexed receive data line;

a time-division multiplexed receive control line for transmitting different functional types of receive control signals including a receive data valid signal and a receive error signal;

a time-division multiplexed transmit data line;

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a time-division multiplexed transmit control line for transmitting different functional types of transmit control signals including a receive data valid signal and a receive error signal.

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17. (Amended Once) The interface of claim 16, wherein said time-division multiplexed receive control line contains receive control signals further comprising [a receive data valid signal, a receive error signal and] a carrier sense signal.

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19. (New) The method of claim 1, wherein the receive control signals further include a synchronization (SYNC) signal and a carrier sense signal.

20. (New) The method of claim 1, wherein the transmit control signals further include a synchronization (SYNC) signal.